



Séminaire conjoint / Joint Seminar

Chaire de logistique et de transport et Chaire de recherche du Canada en distributique /
Chair in Logistics and Transportation and Canada Research Chair in Distribution Management

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A DECOMPOSITION HEURISTIC FOR THE PRODUCTION ROUTING PROBLEM IN A MAKE-TO-ORDER COMPANY

Abstract: In this talk we present a decomposition-based heuristic to solve a rich production routing problem arising in the context of a make-to-order company. The problem considers several important features, such as sequence-dependent setup times, a heterogeneous fleet of vehicles, routes extending over one or more periods, multiple time windows, customers deadlines, among others. An integrated mathematical model is presented and is used as basis to develop the heuristic, which solves the problem by decomposing it in two parts that are solved iteratively. We use a large set of random instances to benchmark our heuristic against a general-purpose solver. Numerical results show that our method provides, in shorter computing times, solutions of similar quality to those obtained by the solver for instances with up to 15 customers. For larger instances, with 20 to 50 customers, the heuristic clearly outperforms the solver, which in most of the cases cannot find any solution after 24 hours of computing time.

Note: Luis Miranda is doing a PhD internship at CIRRELT, under the supervision of Professors Jean-François Cordeau and Raf Jans.

MERCREDI / WEDNESDAY

29 mars 2017 /
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10h30

Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

Ouvert à tous / Open to all

Organisateur / Organizer
Jean-François Cordeau

